

# “Biomedical Optics for Medical Research and Clinical Care”

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## Microscopy techniques

In vivo confocal fluorescence microscopy of cartilage and bone repair in mice viewed through light-scattering skin.



## Coherent light imaging

LIDAR techniques applied to biological tissues

Optical coherence tomography (OCT) of skin



## **Spectroscopic sensing**

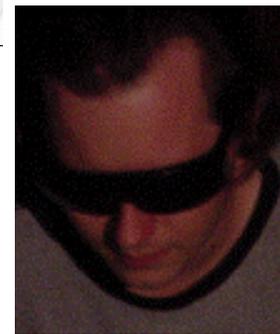
Optical spectroscopic needle: discriminating oral melanoma from amalgam tattoos

Spectroscopic CCD camera imaging of blood perfusion/oxygenation in skin pathology.



## **Biomechanics**

Laser speckle techniques to measure cellular micro-mechanical stress/strain.



## **Photodynamic Therapy (PDT)**

Optical detection of PDT-induced apoptosis and changes in GFP markers

PDT for veterinary care: treatment of sarcoids in horses



## **Tissue micro-machining**

Micro-dissection with pulsed lasers.

